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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,723	08/25/2003	Ken K. Foo	CS22497RA	2166

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EXAMINER	
KOVALICK, VINCENT E	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/647,723	FOO ET AL.	
	Examiner	Art Unit	
	Vincent E. Kovalick	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/2/05; 4/5/06 **
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: ** IDS 10/14/05* .

DETAILED ACTION

1. This Office Action is in response to Applicant's Patent Application, Serial No. 10/647,723, with a File Date of August 25, 2003.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. (Pub. No. 2003/0210363) taken with Kaplinsky in view of Peacock

Relative to claims 1 and 10, Yasukawa et al. **teaches** an active matrix type display device (pg. 1, paras 0006-0012 and pg. 2, para. 0013); Yasukawa et al. further **teaches** a display device comprising a plurality of display elements arranged in a matrix, each display element including a display pixel coupled to a switch (pg. 7, paras. 0090-0092 and Fig. 1).

Yasukawa et al. taken with Kaplinsky in view of Peacock **does not teach** each display element including an addressable latch having an output coupled to a controlling input of the switch, or the addressable latch having a row address input and a column address input.

Kaplinsky **teaches** programmable logic gates (pg. 2, lines27-54); Kaplinsky further **teaches** each display element including an addressable latch having an output coupled to a controlling input of the switch (pg. 3, lines 28-58 and pg. 4, line 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. the feature as taught by Kaplinsky in order to put in place the means to provide the signal for control the pixel switch.

Yasukawa et al. taken with Kaplinsky **does not teach** the addressable latch having a row address input and a column address input.

Peacock **teaches** a comparison matrix (col. lines 30-70); Peacock further **teaches** the addressable latch having a row address input and a column address input (col. 2, lines 1i7-32 and Fig. 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky the feature as taught by Peacock in order to put in place the means to provide the signals necessary to drive the addressable latch.

Relative to claim 2, Peacock further **teaches** the method of comparing the row address input and the row electrode input comparing the column address input and the column electrode input, activating the display pixel with the logic controlled switch based on results of the comparisons (col. 2, lines 17-32 and Fig. 1).

Regarding claim 11, Peacock further **teaches** the addressable latch having a row electrode input and a column electrode input (col. 2, lines 17-32 and Fig. 1). It being understood that physical latch would have to have an electrode in order to receive a signal.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Kaplinsky in view of Peacock as applied to claim 2 in item 3 hereinabove, and further in view of Rischmuller (USP 4,764,686).

Relative to claim 3, Yasukawa et al. taken with Kaplinsky in view of Peacock **does not teach** controlling the logic-controlled switch includes enabling and disabling the logic controlled switch with a charging capacitor.

Rischmuller **teaches** a transistor based control circuit (col. 1, lines 61-68 and col. 2, lines 1-55); Rischmuller further **teaches** controlling the logic-controlled switch includes enabling and disabling the logic controlled switch with a charging capacitor (col. 6, lines 10-12).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky in view of Peacock the feature as taught by Rischmuller in order to put in place the means to control the enabling and disabling of the logic controlled switch.

5. Claims 4-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Kaplinsky in view of Peacock as applied to claim 1 in item 3 hereinabove, and further in view of Santoro et al. (Pub. No. US 2003/0020671).

Relative to claim 4, Yasukawa et al. taken with Kaplinsky in view of Peacock **does not teach** activating at least some display elements of the display device at a first refresh rate, activating other display elements of the display device at a second refresh rate, different that the first refresh rate; or activating at least some display elements at a first rate; activating other display elements at a second rate, the second refresh rate less that the first refresh rate.

Santoro et al. **teaches** a system and method for simultaneous display of multiple information sources (pg. 1 paras. 0002-0010 and pg. 3, paras. 0020-0024); Santoro et al. further **teaches**

activating at least some display elements of the display device at a first refresh rate, activating other display elements of the display device at a second refresh rate, different that the first refresh rate (pg. 3, para. 0020 and Fig. 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky in view of Peacock the feature as taught by Santoro et al. in order to facilitate accommodating different displayed images on the same display screen at different refresh rates.

Regarding claim 5, Santoro et al. further **teaches** activating at least some display elements at a first rate; activating other display elements at a second rate, the second refresh rate less that the first refresh rate (pg. 3, para. 0020 and Fig. 1).

Relative to claim 6, Peacock further **teaches** activating display elements with corresponding logic controlled display element switch when row address and row electrode inputs and when the column address and column electrode inputs satisfy a condition (col. 2, lines 17-32 and Fig. 1).

Regarding claim 9, Santoro et al. further **teaches** activating other display elements at the second rate include not activating the other display elements (pg. 3, para. 0020 and Fig.1). It being understood that with separate controls to control the frequency rate or refresh that the control could also control a period of no refresh in one area of the display while refreshing a second area of the display.

6. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro as applied to claim 6 in item 6 hereinabove, and further in view of Neter (USP 6,888,568).

Regarding claim 7 Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro et al. **does not teach** comparing the row address input and the row electrode input, comparing the column address input and the column electrode input, activating the display element with the logic controlled display element switch using the results of the comparisons. Neter **teaches** the method and apparatus for controlling pixel sensor elements (col. 2, lines 61-67; col. 3, lines 1-67 and col. 4, lines 1-6); Neter further **teaches** comparing the row address input and the row electrode input, comparing the column address input and the column electrode input, activating the display element with the logic controlled display element switch using the results of the comparisons (col. 18, lines 61-67; col. 19, lines 1-9 and Fig. 24).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro et al. the feature as taught by Neter in order to put in place the means necessary to determining the results of comparing the row and column addresses in order to generate the signal required to activate the display element.

7. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro taken with Neter as applied to claim 7 in item 6 hereinabove, and further in view of Rischmuller.

Regarding claim 8, Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro taken with Neter **does not teach** enabling and disabling the logic controlled display element switch with a switch enabling charging capacitor gate controlled by the results of the comparisons.

Rischmuller **teaches** a transistor based control circuit (col. 1, lines 61-67 and col. 2, lines 1-55);

Rischmuller further **teaches** enabling and disabling the logic controlled display element switch with a switch enabling charging capacitor gate controlled by the results of the comparisons (col. 6, lines 10-12).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky in view of Peacock and further in view of Santoro et al. taken with Neter the feature as taught by Rischmuller in order to put in place the means to control the enabling and disabling of the logic controlled switch.

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Kaplinsky in view of Peacock as applied to claim 1 in item 3 hereinabove, and further in view of Neter.

Relative to claim 12, Yasukawa et al. taken with Kaplinsky in view of Peacock **does not teach** the addressable latch of each display element including row address logic and column address logic having corresponding outputs coupled to the output of the addressable latch, the row address input coupled to the row address logic , the column address input coupled to the column address logic.

Neter **teaches** the addressable latch of each display element including row address logic and column address logic having corresponding outputs coupled to the output of the addressable latch, the row address input coupled to the row address logic , the column address input coupled to the column address logic (col. 18, lines 61-67; col. 19, lines 1-9 and Fig. 24).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to device as taught by Yasukawa et al. taken with Kaplinsky in view of Peacock the feature as taught by Neter in order to put in place the means necessary to determining the results

of comparing the row and column addresses in order to generate the signal required to activate the display element.

Regarding claim 13, Neter further **teaches** the display device wherein the addressable latch of each display element including first and second comparators, the first comparator having the row address input and a row electrode input, the second comparator having the column address input and a column electrode input, each display element including a logic device having a first input coupled to an output of the corresponding first comparator, the logic device having a second input coupled to an output of the corresponding second comparator (col. 18, lines 61-67; col. 19, lines 1-9 and Fig. 24).

Relative to claim 14, Neter still further **teaches** the said display device wherein the logic device is an AND gate, the output of the addressable latch is an output the logic device (col. 18, lines 61-67; col. 19, lines 1-9 and Fig. 24 item 622).

Regarding claims 15-16, Yasukawa further teaches the said display device wherein a pixel capacitor connected parallel with the display pixel, and a switch enabling capacitor coupled to an input of the switch (pg. 7, para. 0092); and wherein the said device is a thin-film-transistor display device (pg. 7, para 0092).

9. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Santoro et al. as applied to claim 5 in item 5 hereinabove, and further in view of Whitby.

Yasukawa et al. taken with Santoro et al. **does not teach** the method wherein the second refresh frequency is less that the first refresh frequency.

Whitby **teaches** a display line dispatcher apparatus (pg. 2, lines 9-58 and pg. 3, lines 1-6);

Whitby further **teaches** the method wherein the second refresh frequency is less that the first refresh frequency (Abstract and Claim 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yasukawa et al. taken with Santoro et al. the feature as taught by Whitby in order to save system power when the higher frequency is not required.

Yasukawa et al. does **teaches** the method of selectively activating the display element includes, applying a row address input and row electrode input to control logic of the corresponding display element; applying a column address input and a column electrode input to the control logic of the corresponding display element; activating the display element with a logic controlled switch when the control logic inputs satisfy a condition (pg. 7, para. 0090 and Fig. 1). It being understood that row and column electrodes are required in order to apply the row and column addresses in the system (pg. 7, para. 0090).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Santoro et al. in view of Whitby as applied to claim 18 in item 9 hereinabove, and further in view of Neter.

Regarding claim 19, Yasukawa et al. taken with Santoro et al. in view of Whitby **does not teach** the method of comparing the row address input and the row electrode input with the control logic, comparing the column address input and the column electrode input with the control logic, activating the display element by enabling the logic controlled switch using the results of the comparisons.

Neter **teaches** the method of comparing the row address input and the row electrode input with the control logic, comparing the column address input and the column electrode input with the

control logic, activating the display element by enabling the logic controlled switch using the results of the comparisons (col. 18, lines 61-67; col. 19, lines 1-9 and Fig. 24).

Regarding claim 19, the statement presented relative to claim 7 in item 6 hereinabove, applies equally to claim 19.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasukawa et al. taken with Santoro et al. in view of Whitby and further in view of Neter as applied to claim 18 in item 10 hereinabove, and further in view of Rischmuller.

Relative to claim 20, Yasukawa et al. taken with Santoro et al. in view of Whitby and further in view of Neter **does not teach** enabling and disabling the logic controlled switch with a switch enabling capacitor controlled by the control logic.

Rischmuller **teaches** enabling and disabling the logic controlled switch with a switch enabling capacitor controlled by the control logic (col. 6, lines 10-12).

Regarding claim 20, the statement presented relative to claim 8 in item 7 hereinabove, applies equally to claim 20.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,133,954	Jie et al.
U. S. Patent No.	4,930,006	Murayama et al.

To Respond

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vincent E. Kovalick
May 26,2006

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